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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/822,780   | 04/13/2004  | Siddhartha Biswas    | 31446-191298        | 3251             |
| 26694  | 7590        | 12/07/2006           | EXAMINER            |                  |
| VENABLE LLP<br>P.O. BOX 34385<br>WASHINGTON, DC 20043-9998 |             |                      | PAHNG, JASON Y      |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3725                |                  |

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                            |                     |  |
|------------------------------|----------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>     | <b>Applicant(s)</b> |  |
|                              | 10/822,780                 | BISWAS ET AL.       |  |
|                              | Examiner<br>Jason Y. Pahng | Art Unit<br>3725    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 May 2006.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4,6,7 and 9 is/are pending in the application.  
 4a) Of the above claim(s) 4 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3,6,7 and 9 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 16 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

The amendment overcomes the drawing objections made in the last Office action.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It appears that there is no disclosure of "an air directing vane" in the specification as originally filed. This New Matter should be removed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6, 7, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the recitation regarding the first or second configuration is not understood. There is no disclosure of a bowl mill capable of having the height of its opening change. This is an apparatus claim. The disclosed bowl mills all have a fixed opening height.

With regard to claim 3, the claim is indefinite because a reference is made to an object that is variable. What is the size of an area required in a single entry configuration? The size of area varies as much as there are different single entry bowl mills available in the world. See MPEP 2173.05(b).

Claim 9 calls for a primary air to enter the air mill through first opening (21) in line 8, but half of a primary air does not enter the air mill through first opening (21). For example, can people enter the White House through a door in the hallway of a second level?

Also, which element splits entry of the primary air in line 11?

Claim 9 also lacks any structural relationship between the inlet and the duct.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hardinge (US 2,909,330).

With regard to claim 1, as well as understood, Hardinge discloses a bowl mill including:

1. a substantially closed separator body (12) having a central axis (82);
2. a bowl-like grinding table (28) mounted on a shaft (26);
3. a plurality of cooperating grinding rolls (34);
4. a multiple entry annular openings (78); and
5. the multiple entry annular openings (78) are capable of being designed from a configuration of an air mill design wherein a height of an opening of the multiple entry annular openings is varied.

With regard to claim 2, Hardinger discloses a double entry annular openings (78, Figures 1 and 2) which are set 180 degrees from one another.

With regard to claim 3, Hardinger discloses a cross sectional area of each opening of the two entry configuration which is half of the area required in a single entry configuration.

With regard to claim 9, Hardinge discloses a bowl mill wherein air inlet is bifurcated or branched (column 8, lines 5-12) with a partition (inherent) for allowing half of a primary air to enter the air mill through first opening (one of the two openings 78; Figures 1 and 2) and the other half the primary air to enter a duct (inherent) to a second opening (one of the other of two openings 78; Figures 1 and 2) which is set 180 degrees from the first opening (Figure 1).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6, as well as can be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinge (US 2,909,330) in view of Brodt et al. (US 5,522,768). Hardinge discloses a second opening, but does not recite a blockage upstream of the second opening. In a closely related art pertinent to the problem of solving air turbulence, Brodt discloses an air flowing duct with a blockage or an air flow blocking curve in order to reduce air turbulence (abstract, lines 8-12). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Hardinge with a blockage upstream of the second opening in order to reduce air turbulence, as taught by Brodt.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinge (US 2,909,330) in view of Dibowski et al. (US 4,705,223). Hardinge discloses a duct leading to a second opening, but does not recite a decreasing cross-section for the duct. In a closely related art, Dibowski discloses a decreasing cross-section for a duct leading to an opening in order to increase pressure (Figure 1). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide Hardinge with a decreasing cross-section for the duct in order to increase pressure, as taught by either Dibowski.

### **Allowable Subject Matter**

The invention disclosed in the application, including all of the major details in the disclosure such as the structural details as shown in Figure 5b, appears to contain allowable subject matter. However, each of the claimed invention is rejected as above.

### ***Response to Arguments***

Applicant's arguments filed on May 16, 2006 have been fully considered but they are not persuasive.

With regard to claim 1, Applicant argues that Hardinge fails to disclose the recited multiple annular openings (page 7). This is not true. Hardinge discloses the recited multiple annular openings as claimed. Hardinge's multiple entry annular openings (78) are capable of being designed as a result of a first or second configuration of an air mill design wherein in the first configuration only a height of an opening of the multiple entry annular openings is varied while width remains the same and in the second configuration both the height and the width of the opening are varied simultaneously keeping total area of entry the same as area of entry of a single opening. In an apparatus claim, the reference does not have to disclose every structure referenced in a functional limitation as long as the apparatus is capable of meeting the functional limitation. See MPEP 2114.

With regard to claim 3, Applicant argues that Hardinge does not anticipate claim 3 because Hardinge fails to disclose the inlet area required in a single entry configuration (page 8). However the inlet area required in a single entry configuration is

a functional language. In an apparatus claim, the reference does not have to disclose every structure referenced in a functional limitation as long as the apparatus is capable of meeting the functional limitation. See MPEP 2114. In this case, Hardinge certainly discloses a cross sectional area of each opening of a multiple entry configuration which is a fraction of an inlet area required in at least one of a variety of a single entry configuration.

With regard to claim 6, Applicant argues that "Brodt does not mention any blockage directing the two streams of air to flow in the same general direction after mixing as has been claimed to be achieved in the present invention". While it is true that "Brodt does not mention any blockage directing the two streams of air to flow in the same general direction after mixing," as far as the patentability of claim 6 is concerned, there is no recitation of "blockage directing the two streams of air to flow in the same general direction after mixing" anywhere in claim 6. Therefore, this argument is not relevant to the patentability of claim 6.

With regard to the Brundiek reference regarding claim 7, the claim rejection has been withdrawn in view of Applicant's arguments.

With regard to the Dibowski reference regarding claim 7, Applicant argues that the reduction in cross-section of Dibowski is not related to the reduction in cross-section of the circumferential duct as in claim 7 of the present invention because the reduction does not compensate the loss of pressure. While it is true that Dibowski does not teach that the reduction in cross-section is to compensate the loss of pressure, nonetheless,

Dibowski discloses a reduction in cross-section as claimed in claim 7. Furthermore, there is no recitation of compensating the loss of pressure anywhere in claim 7.

With regard to claim 9, Applicant argues that Hardinge does not disclose a bifurcation done in such a way that the air flow within the air inlet housing remains in the same circular direction and the two inlet flows do not disturb or oppose each other. While it is true that Hardinge does not disclose a bifurcation done in such a way that the air flow within the air inlet housing remains in the same circular direction and the two inlet flows do not disturb or oppose each other, as far as the patentability of claim 9 is concerned, there is no recitation of a bifurcation done in such a way that the air flow within the air inlet housing remains in the same circular direction and the two inlet flows do not disturb or oppose each other anywhere in claim 9. Therefore, this argument is not relevant to the patentability of claim 9.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Y. Pahng whose telephone number is 571 272 4522. The examiner can normally be reached on 9:30 AM - 8:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larson Lowell can be reached on 571 272 4519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JYP



Lowell A. Larson  
Primary Examiner